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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,246

08/13/2008

Mark J. Childs

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03/18/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

KO, TONY

ART UNIT

PAPER NUMBER

2878

MAIL DATE

DELIVERY MODE

03/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,246	Applicant(s) CHILDS, MARK J.	
	Examiner TONY KO	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,10,13,14 and 19 is/are rejected.
- 7) ☒ Claim(s) 3-9,11,12 and 15-18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kozlowski (US Patent 6,538,245)
4. Regarding claims 1 and 14, Kozlowski teaches (Figs. 1 and 2) an image sensor and method of measuring light intensity comprising a plurality of pixels each pixel comprising: a light sensor element (PD1), a sensor voltage across the element varying depending on the light incident on the element (PD1); a voltage amplifier (M2 and M6) have gain magnitude greater than 1; and a sampling capacitor (Cs/h) charged by the voltage amplifier, wherein the voltage amplifier comprises first (M2) and second transistor (M6) in series, the input to the voltage amplifier being provided to the gate of the first transistor (M2), and the output being defined by the junction between the first and second transistors (the connection leads into M7), and wherein each pixel further comprises a third

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transistor (M4), the gate of the third transistor being connected to one terminal of the light sensor element (PD1), and the source of the third transistor (M4) being connected to the gate of the first transistor (M2).

5. Regarding claim 2, Kozlowski teaches (Col. 7, line 8) each pixel further comprises a pixel storage capacitor (capacitance built within the detector) connected to the sensor element.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozlowski in view of Deppe (US Patent 7259363).

8. Regarding claims 10 and 19, Kozlowski teaches the invention set forth above. Kozlowski does not teach the voltage amplifier has a gain between 2 to 5. Deppe teaches (Col. 5, line 65 – Col. 6 line 3) the gain magnitude is between 1 to 6. It is well known to set amplification of an amplifier to between 2 and 5 to improve signal to noise ratio. It would have been obvious to one in the ordinary skill in the art at the time of invention to set amplification of an amplifier to between 2 and 5 to improve signal to noise ratio to improve signal to noise ratio.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozlowski in view of Chen (US Patent 6248991).

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10. Regarding claim 13, Kozlowski teaches the invention set forth above.

Kozlowski does not teach the use of a switch to connect reset voltage to the light sensor element. Chen teaches (Fig. 1) the use of a switch to connect reset voltage to the light sensor element to reset the sensor. It would have been obvious to one in the ordinary skill in the art at the time of invention to use of a switch to connect reset voltage to the light sensor element to reset the sensor.

Allowable Subject Matter

11. Claims 3-9, 11, 12 and 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: regarding claims 3, 7 and 16, prior art does not teach the capacitance of the sampling capacitor is less than 10 times the capacitance of the pixel storage capacitor. Regarding claim 11, prior art does not teach a bias voltage is connected to the gate of the second transistor. Regarding claim 15, prior art does not teach a reset operation is carried out before amplifying the voltage provided by the source follower buffer transistor, the reset operation comprising applying a known potential to one terminal of the sampling capacitor and applying a known potential across the sensor element, the amplified voltage being subsequently applied to the other terminal of the sampling capacitor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TONY KO whose telephone number is

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(571)272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TK

/Georgia Y Epps/
Supervisory Patent Examiner, Art Unit 2878